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# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/074,763 | 02/11/2002 | Ramachandra Bethmangalkar | SUN-P7089 | 1089 |

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| EXAMINER |
|---|
| PATEL, CHIRAG R |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2141 | |

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/074,763 | BETHMANGALKAR ET AL. |
| | Examiner | Art Unit |
| | Chirag R. Patel | 2141 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 February 2002*.

2a)☐ This action is **FINAL**.          2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-47* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

### *Oath/Declaration*

It fails to include the signature of all of the inventors. The signature of

Frederic E. Herrmann is not present in the oath/declaration.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office

action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1-4, 7-20, 23-33, 36-47 are rejected under 35 U.S.C. 102(e) as being

anticipated by Hirashima et al. (US 6,301,589).

As per claims 1, 30, and 47, Hirashima et al. discloses a method for managing

lightweight directory access protocol (LDAP) service, including:

maintaining a primary LDAP server and a secondary LDAP server; (Col 8 lines

5-9, Col 12 lines 19-25)

mirroring any modification to said primary LDAP server to said secondary LDAP

server; (Col 8 lines 9-18)

and retrying a call on said secondary LDAP server if said call on said primary

LDAP server fails. (Col 4 lines 12-16, Col 8 lines 19-31)

As per claims 2 and 31, Hirashima et al. discloses the method of claim 1, wherein

said mirroring includes remote mirroring. (Col 9 lines 16-19)

As per claims 3 and 32, Hirashima et al. discloses the method of claim 2, wherein

said remote mirroring includes sending any modification to separate hosts on said

primary LDAP server and said secondary LDAP server. (Col 1 lines 62-65, Col 8 lines

9-17, Col 9 lines 31-33)

As per claims 4 and 33, Hirashima et al. discloses the method of claim 1, further

including logging any modification to said primary LDAP server or said secondary LDAP

server. (Col 10 lines 4-17)

As per claims 7 and 36, Hirashima et al. discloses the method of claim 1, wherein

if said call on said primary LDAP server fails the primary LDAP server is offline. (Col 13

lines 52-56)

As per claims 8 and 37, Hirashima et al. discloses the method of claim 7, further

including if said primary LDAP server is offline, resynchronizing said primary LDAP

server and said secondary LDAP server when said primary LDAP server is back online. (Col 19 lines 53-57)

As per claims 9 and 38, Hirashima et al. discloses the method of claim 1, further including generating an error if a timeout is reached when said call is retried on said secondary LDAP server. (Col 16 lines 29-32, Col 26 lines 24-29)

As per claims 10 and 39, Hirashima et al. discloses the method of claim 1, further including initializing an LDAP session with said primary LDAP server through an application program interface (API). (Col 23 lines 7-11)

As per claims 11 and 40, Hirashima et al. discloses the method of claim 10, further including assigning a handle to said LDAP session. (Col 23 lines 1-3)

As per claims 12 and 41, Hirashima et al. discloses the method of claim 1, wherein said retrying includes retrying said call on said secondary LDAP server without generating an error in response to said primary LDAP server failure. (Col 17 lines 6-10)

As per claims 13 and 42, Hirashima et al. discloses the method of claim 1, wherein said call is an add operation having an entry, and if said entry already exists in the LDAP server to which the call is made, said existing entry is overwritten and a

success message is generated.  (Col 15 lines 40-41, Col 16 lines 3-6, Col 16 lines 20-23, Figure 14)


As per claims 14 and 43, Hirashima et al. discloses the method of claim 1, wherein said call is a delete operation having an entry, and if said entry does not exist in the LDAP server to which the call is made, a success message is generated.  (Col 16 lines 6-10, Col 16 lines 20-23, Figure 14)


As per claims 15 and 44, Hirashima et al. discloses the method of claim 1, wherein said call is a rename operation having a first entry and a second entry, and if said first entry does not exist in the LDAP server to which the call is made, a success message is generated.  (Col 16 lines 10-23, Figure 14)


As per claim 16 and 45, Hirashima et al. discloses the method of claim 1, wherein if a signal is received during a call, said call runs to completion before said signal is handled.  (Col 2 lines 52-57, Col 3 lines 12-17, Col 10 lines 65-67, Col 11 lines 1-6, Col 12 lines 5-19)


As per claims 17 and 46, Hirashima et al. discloses the method of claim 1, wherein said mirroring includes:

issuing a write to said primary LDAP server;  (Col 9 lines 27-30)

transferring said write into a mirroring software layer where a bit is set in a

bitmap for data that is being requested to be written; (Col 9 lines 61-67, Col 10 lines 1-3,

Col 15 lines 15-20, Figure 7 item 77)

writing said data to said primary LDAP server; (Col 9 line 31)

receiving said data by mirroring software on said secondary LDAP server;  (Col 9

lines 31-32)

writing said data on said secondary LDAP server; (Col 8 lines 15-16, Col 9 lines

31-32)

issuing an acknowledgment from said secondary LDAP server to said primary

LDAP server; (Col 11 lines 54-64, Figure 4 items 402, 404)

and clearing said bit in said bitmap. (Col 15 lines 17-19)


As per claim 18, Hirashima et al. discloses a system for managing lightweight

directory access protocol (LDAP) service, including:

a primary LDAP server having mirroring software;  (Col 8 lines 5-9, Col 8 lines

48-50, Col 12 lines 19-25, Figure 2 item 8s)

a secondary LDAP server having mirroring software; (Col 8 lines 48-50, Col 9

lines 8-12, Col 12 lines 19-25,Figure 2 item 8c)

and a call retrier coupled to said primary LDAP server and said secondary LDAP

server. (Col 11 lines 7-11, Figure 2 item 13)

As per claim 19, Hirashima et al. discloses the system of claim 18, wherein said mirroring software is remote mirroring software. (Col 9 lines 16-19)

As per claim 20, Hirashima et al. discloses the system of claim 19, wherein said remote mirroring software includes a logging mechanism. (Col 10 lines 4-17)

As per claim 23, Hirashima et al. discloses the system of claim 18, further including a server resynchronizer coupled to said primary LDAP server and said secondary LDAP server. (Col 9 lines 34-39, Col 10 lines 59-61, Figure 2 item 12)

As per claim 24, Hirashima et al. discloses the system of claim 18, further including an error generator coupled to said call retrier. (Col 25 lines 64-67, Col 26 lines 24-29, Figure 2 item 13, Figure 2 item 8c)

As per claim 25, Hirashima et al. discloses the system of claim 18, further including an LDAP session initializer coupled to the primary LDAP server. (Col 10 lines 59-65, Figure 2 item 10)

As per claim 26, Hirashima et al. discloses the system of claim 25, further including an LDAP session assigner coupled to said LDAP session initializer. (Col 10 lines 62-65, Figure 2 item 14)

As per claim 27, Hirashima et al. discloses the system of claim 18, wherein said call retrier includes a non-error generating call retrier. (Col 17 lines 6-10, Figure 2 item 13)


As per claim 28, Hirashima et al. discloses the system of claim 18, further including a signal holder coupled to said call retrier.  (Col 11 lines 33-47, Fiugre 2 item 19)


As per claim 29, Hirashima et al. discloses the system of claim 18, wherein said mirroring software further includes:

a data writer;  (Col 9 lines 27-30, Figure 2 item 5s)

a bitmap; (Col 15 lines 15-19, Figure 2 item 20, Figure 7 item 77)

a data transferor coupled to said data writer and to said bitmap; (Col 8 lines 49-53, Figure 2 item 8s)

a data receiver coupled to said data writer; (Figure 2 item 9s, Figure 2 items 19-21)

an acknowledgment sender coupled to said data writer; (Col 11 lines 54-64, Figure 2 item 10, Figure 4 items  401, 403)

an acknowledgment receiver; (Col 11 lines 54-64, Figure 2 item 10, Figure 4 items 402, 404)

and a bitmap clearer coupled to said acknowledgment receiver and to said

bitmap.  (Col 9 lines 60-67, Col 10 lines 1-3, Col 15 lines 1-6, Col 15 lines 18-20, Figure

2 item 20, Figure 7 item 77)


### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-6, 21-22, and 34-35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hirashima et al. (US 6,301,589) in view of Cook (Storage Tips,

Journaling vs. scoreboarding, 02 Oct 2001).


As per claims 5, 21, and 34, Hirashima et al. discloses the system of claim 20 of

a logging mechanism stored in memory (Col 10 lines 4-16, Figure 2 item 4s), however,

fails to discloses a journal in the logging mechanism.  Cook discloses wherein said

logging mechanism includes a journal.  (page 2 lines 1-3)  It would have been obvious

to a person of ordinary skill in the art at the time the invention to use a journal for a

logging mechanism in the teachings of Hirashima because journaling allows quickly

restoring the state of system in the event of a crash or an interruption of the connection

between the systems since the software can simply update the changed segments of

the disk from the journal rather than having to check every sector on the disk to see if information was changed during the crash or interruption. (page 2 lines 3-8)

As per claims 6, 22, and 35, Hirashima et al. discloses the system of claim 20 of a logging mechanism stored in memory (Col 10 lines 4-16, Figure 2 item 4s), however, fails to discloses a scoreboard in the logging mechanism. Cook discloses wherein wherein said logging mechanism includes a scoreboard. (page 2 lines 10-13). It would have been obvious to a person of ordinary skill in the art at the time the invention to use a scoreboard for a logging mechanism in the teachings of Hirashima because the scoreboard only keeps a list of changed sectors, rather than trying to log every write and it takes less space and avoids the problem of overflowing the journal partition if the interruption goes on for some time. (page 2 lines 15-17)

### Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Martin (US 6,247,017) discloses a server-client communication over a network using the LDAP protocol. Win et al. (US 6,182,142) discloses facilitating secure and selective access to network resources based on a role of a user of the resources. Shih et al. (US 6,615,223) discloses efficient and effective replication system using LDAP replication components. Dutcher et al. (US 6,209,032) discloses a method for enabling target servers in a network server environment to control determination of a full synchronization update on a target server from

a central server. Yeong (RFC 1777 – Lightweight Directory Access Protocol, Network Working Group, March 1995) discloses the details of the LDAP protocol.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag R. Patel whose telephone number is (571)272-7966. The examiner can normally be reached on Monday to Friday from 7:30AM to 4:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia, can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER